

REMARKS

In the Office Action, claims 30-39 and 90 were rejected. By the present Response, claims 40-89 and 91-95 are canceled. New claims 96-145 are added. The subject matter of claims 96-140 is drawn from that of claims 30-39, and no new matter is added. Claims 141-145 relate to images produced by the method of the new independent claims, and similarly add no new matter. Upon entry of the amendments, claims 30-39, 90 and 96-145 will remain pending in the present patent application. Reconsideration and allowance of all pending claims are requested.

Election and review

In the Office Action, the Examiner indicated that the invention of claims 30-39 and 90 was elected. In point of fact, the applicants FORMALLY requested the review of the restriction requirement by the Examiner's Supervisor. That request is RENEWED by this filing. A reply from the Supervisor following the review is kindly requested.

Prior art rejections

Claims 30-39 and 90 were rejected as unpatentable over Foo et al. The Examiner argued that all of the elements of the pending claims are taught by Foo et al. Applicants submit that the elements claimed are in no way taught by Foo et al., and request reconsideration and allowance of all pending claims.

Foo et al. disclose a NMR imaging technique. Periods referred to in the reference as "T1", "T2" and "TR" relate to nothing more than the well known periods during which molecules affected by pulses return NMR signals, relax, or periods for receipt of such signals. These periods have been known for decades, and no one skilled in the art would confuse them with programming time boundaries as claimed.

The pending claims recite defining a component module including *instructions for executing an activity of a subsystem and a time boundary for execution of the activity*. These programming modules are discussed throughout the application, and are illustrated, for example, in Figure 5 (see components 118, 120, 122 and 124. Each includes instructions for specific activities (e.g. pulse sequences on gradient or RF coils). Each has time boundaries associated with the activities, as denoted by the broken lines around each module.

The claims then recite that the module is integrated into a control sequence, and that the control sequence is coordinated *based on the time boundary of the component module*. This integration and control are illustrated in Figure 6 of the application, wherein the modules of Figure 5 are brought together and the sequence is time-optimized based upon the boundaries defined for each module.

In formulating the rejection, the Examiner never points to any such module, the instructions of the module, or the time boundaries of the module. The times indicated by the Examiner are *NOT* associated with any instructions to define a component module. The reference never indicates any such modular programming, and the passages relied upon by the Examiner, in particular, are completely devoid of any such teaching. While pulse sequences have doubtless existed prior to the invention, prior to the invention no modular programming of such pulse sequences existed in which instructions and time boundaries were defined in component modules, and wherein the modules were then incorporated into an optimized sequence for control of the system.

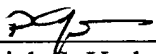
New claims have been added by this Response in view of the cancellation of the non-elected claims. In particular, new claims 96-140 are all drawn from the subject matter of claims 30-39, and no new matter or matter outside that elected has been added. New claims 141-145 simply relate to images produced by the claimed methods, and also add no new matter.

Conclusion

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Date: 11/4/2003



Patrick S. Yoder
Reg. No. 37,479
FLETCHER YODER
P.O. Box 692289
Houston, TX 77269-2289
(281) 970-4545